

# PROPANE SAFETY MEETING

## INTERRUPTIONS OF SERVICE OUTLINE

### Summary

Interruption-of-service and out-of-gas calls are costly, time-consuming and potentially hazardous situations. Service must be restored by properly certified technicians, using properly calibrated test instruments, in compliance with all applicable NFPA 54 requirements.

An interruption of service generally relates to out-of-gas situations, but also includes conditions when the main supply valve on the LP-gas stationary storage container is shut off, even if an out-of-gas situation does not exist.

### Who should attend

- Delivery truck drivers
- Service and installation technicians
- Customer service representatives (front office staff)

NOTE: Employees in these job categories who do not attend (see below) should be trained on this subject as soon as possible.

### Additional Material

Video (available through AFRED's Video Lending Library) Leak Checking and Regulator Performance Tests (7:52 minutes) Segment from PERC/NPGA video Installing Propane Vapor Distribution Systems #004265.

### Key codes and standards for this topic

National Fire Protection Association (NFPA) 54, *National Fuel Gas Code*, 1999 Edition

**§4.2.2. Before Turning Gas On.** "Before gas is introduced into a system or new gas piping, the entire system shall be inspected to determine that there are no open fittings or ends and that all manual valves at outlets on equipment are closed and all unused valves at outlets are closed and or capped."

**§4.2.3.\* Test for Leakage.** "Immediately after the gas is turned on into a new system or into a system that has been initially restored after an interruption of service, the piping system shall be tested for leakage. If leakage is indicated, the gas supply shall be shut off until the necessary repairs have been made."

It is important to distinguish between the terms "piping pressure test" and a piping "leak check." As defined in NFPA 54:

- A piping pressure test is an operation performed to verify the gastight integrity of gas piping [tubing] following its installation or modification. [The pressure test is a leakage test for piping only and is completed before the piping is connected to any appliance.]
- A leak check is an operation performed on a complete gas piping system and connected equipment prior to placing it into operation following initial installation and pressure testing or interruption of gas supply to verify that the system does not leak.
- The piping system includes all piping, valves, and fittings from the outlet of the point of delivery from the supplier to the outlets of the equipment shutoff valves.

\*NFPA 54, Appendix D, Suggested Method for Checking for Leakage.



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## **Related information**

- Test equipment must be accurate.
- The person performing the tests must hold the proper Railroad Commission LP-gas certification.

## **Company Standard Operating Procedures (SOP)**

Note any additional materials used on the attached documentation form, or indicate not applicable.

A company SOP may provide:

- clear identification of customer reports of interruption of service and out-of-gas conditions as they are dispatched to company delivery or service personnel;
- warning and means of documenting warnings to customers. These warnings should properly notify customers of the hazards associated with interruption of service and out-of-gas situations, restoring gas service and the operation of appliances, and potential hazards of interruption of service, out-of-gas situation, gas leakage and/or accumulation.

## **Documentation**

Complete the attached documentation form listing the date, time and location of the safety meeting and the printed names and signatures of attendees, names of persons who need to attend but did not, and copies of any customer materials distributed, video shown, or visual aids used in a demonstration. These materials should be properly filed in a safe location.

## **Notice**

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# INTERRUPTIONS OF SERVICE

## PROPANE SAFETY MEETING HANDOUT

### Procedures For Handling Out-of-gas Deliveries



#### Company SOP

Properly and carefully handling interruptions of service, including out of gas situations is a primary concern and task of any employee of an LP-gas marketer. The hazards to customers and LP-gas personnel associated with restoring service and appliance operation after a gas service interruption cannot be ignored. Proper procedures are so important that they are covered in Sections 4.2 and 4.3 of NFPA 54, National Fuel Gas Code, 1999 edition. The following parts are particularly important in handling out of gas situations:



The container service valve(s) must be closed and the appliances must be accessible for a leak check and relighting before placing liquid propane in an out-of-gas container, or the driver must post a customer warning notice.

A leak check should be performed after an out-of-gas delivery for new customers and after a piping pressure test. A system inspection must be performed when restoring service after an out of gas situation.

**4.2.1 Test Gases.** Fuel gas shall be permitted to be used for leak checks in piping systems that have been tested in accordance with Section 4.1.

**4.2.3\* Test for Leakage.** Immediately after gas is turned on into a new system or into a system that has been initially restored after an interruption of service, the piping system shall be tested for leakage. If leakage is indicated, the gas supply shall be shut off until the necessary repairs have been made.

**4.2.4 Placing Equipment into Operation.** Gas utilization equipment shall not be placed in operation until after the piping system has been tested in accordance with 4.2.3 and purged in accordance with 4.3.2.

**4.3.2 Placing in Operation.** (In part) When piping full of air is placed in operation, the air in the piping shall be displaced with fuel gas, provided the piping does not exceed the length shown in Table 4.3.2. The air can be safely displaced with fuel gas provided that a moderately rapid and continuous flow of fuel gas is introduced at one end of the line and air is vented out of the other end. The fuel gas flow shall be continued without interruption until the vented gas is free of air. **The point of the discharge shall not be left unattended during purging.** The vent shall then be closed.

**4.3.3 Discharge of Purged Gases.** The open end of piping systems being purged shall not discharge into confined spaces or areas where there are sources of ignition unless precautions are taken to perform this operation in a safe manner by ventilation of the space, control of purging rate, and elimination of all hazardous conditions.

Source: Railroad  
Commission of Texas,  
Texas Propane Training  
Module 2.3



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# INTERRUPTIONS OF SERVICE

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For the protection of the customer, propane marketer, and company employees, out of gas calls should be fully documented.

**When you are involved in an out of gas situation it is vital that your company's Standard Operating Procedures (SOP) be followed.**

Company procedures may provide for the following actions:

- Clear identification of customer reports of out of gas conditions as they are dispatched to company delivery or service personnel.
- Provide a warning and means for documenting warnings to customers. These warnings should properly notify customers of the hazards associated with out-of-gas situations, restoring gas service and the operation of appliances, and potential hazards of gas leakage and/or accumulation.

Once you have determined that you have an out of gas situation, customers should be advised that container service valve(s) must be closed before any LP-gas is introduced into the container. Delivery personnel should always verify that the container service valve(s) are closed before transferring any LP-gas into the customer's container.

Follow appliance manufacturer's instructions and applicable sections of NFPA 54 prior to placing the system and equipment back in service.

### Inspecting Gas System Appliances And Leak Checking Gas Piping

It is important to distinguish between the terms "piping pressure test" and a piping "leak check." As defined in NFPA 54, National Fuel Gas Code,

- A **piping pressure test** is an operation performed to verify the gas-tight integrity of gas piping [tubing] following its installation or modification. The pressure test is a leakage test for piping only and is completed before the piping is connected to any appliance.
- A **leak check** is an operation performed on a complete piping system and connected equipment prior to placing it into operation following initial installation and pressure testing or interruption of gas supply to verify that the system does not leak.
- The **piping system** includes all piping, valves, and fittings from the outlet of the point of delivery from the supplier to the outlet of the equipment shutoff valves.

**NFPA 54**  
1999 Edition 1.7



LP-gas systems should be leak checked and inspected after an interruption of gas supply.



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Pressure tests must be made on new or modified piping before appliances are connected.

System leak checks and inspections must follow any pressure test. They must be made for any new customer or out-of-gas customer.

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Section 4.2 of NFPA 54 requires a leak check to be performed before introducing gas into a new system or an existing system if the gas supply has been interrupted. Section 4.3 requires that the gas piping be purged of air and the appliances placed back into service after an interruption of gas supply.

Be sure that you have proper knowledge and training on any system and equipment related to your job duties.

Following your company's standard procedures and all applicable rules for handling interruptions of service, including out-of-gas conditions, is important because the customer may have an open gas valve which is not apparent when the fuel tank is empty. When fuel is placed back into the system, an uncontrolled gas discharge can occur. Company standard operating procedures should ensure that the delivery truck driver identifies the problem and takes appropriate action.

### Inspecting the gas system

When inspecting the gas system, NFPA 54 requires the inspector to determine that:

- there are no open fittings or ends;
- all manual valves at outlets on equipment are closed; and
- all unused valves at outlets are closed and plugged or capped.



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# INTERRUPTIONS OF SERVICE

## PROPANE SAFETY MEETING HANDOUT

### QUIZ

#### Interruptions of Service

**Directions:** Select from the list below the response that most correctly completes each of the following statements. Write the letter of your choice in the space provided.

- |  |  |
|--|--|
| <b>A.</b> rotary gauge                                       | <b>I.</b> CTMV                             |
| <b>B.</b> piping leak check                                  | <b>J.</b> the service valve(s) is closed   |
| <b>C.</b> steady white fog or stream                         | <b>K.</b> planning and organization        |
| <b>D.</b> installation inspection                            | <b>L.</b> fixed maximum liquid level gauge |
| <b>E.</b> receiving container                                | <b>M.</b> gas equipment inspection         |
| <b>F.</b> for new customers                                  | <b>N.</b> after a piping pressure test     |
| <b>G.</b> consistent monitoring of customer container levels | <b>O.</b> post a customer warning notice   |
| <b>H.</b> when placing container back in service             |  |

1. After a service interruption (out-of-gas) a \_\_\_\_\_ and \_\_\_\_\_ should be completed.
2. Before placing liquid LP-gas in an out-of-gas container, the driver must make sure the \_\_\_\_\_ and that the appliances are accessible for a leak check and re-lighting, or the driver must \_\_\_\_\_.
3. Leak checks are required \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.



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# PROPANE SAFETY MEETING

## DOCUMENTATION FORM

Topic:

Name of Company:

Location:

City:

State:

Zip:

Date:

Instructor (Print Name)

Instructor (Signature)

If applicable, Instructor's Company/Address/Telephone and Cell Telephone No.:

Materials used at meeting (Attach copies of any printed materials distributed)

### NOTES



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ATTENDEES	
Clearly Print Name	Signature

ABSENTEE MAKEUP TRAINING	
Date:	
Instructor (Print Name)	Instructor (Signature)
If applicable, Instructor's Company/Address/Telephone and Cell Telephone No.:	

ABSENTEES	
Clearly Print Name	Signature